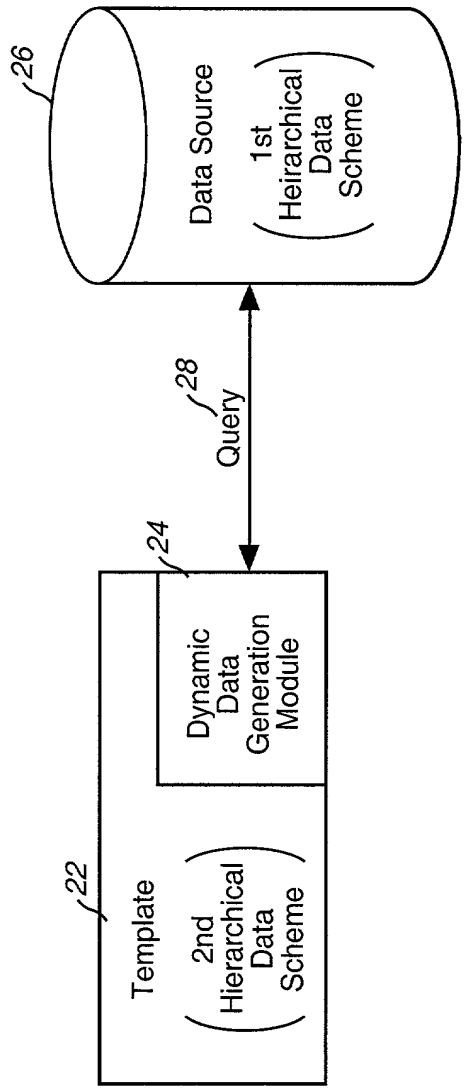
20
26
Data Source
1st Heirarchical Data Scheme
28
Query
24
Dynamic Data Generation Module
22
Template
2nd Hierarchical Data Scheme

FIG. 1

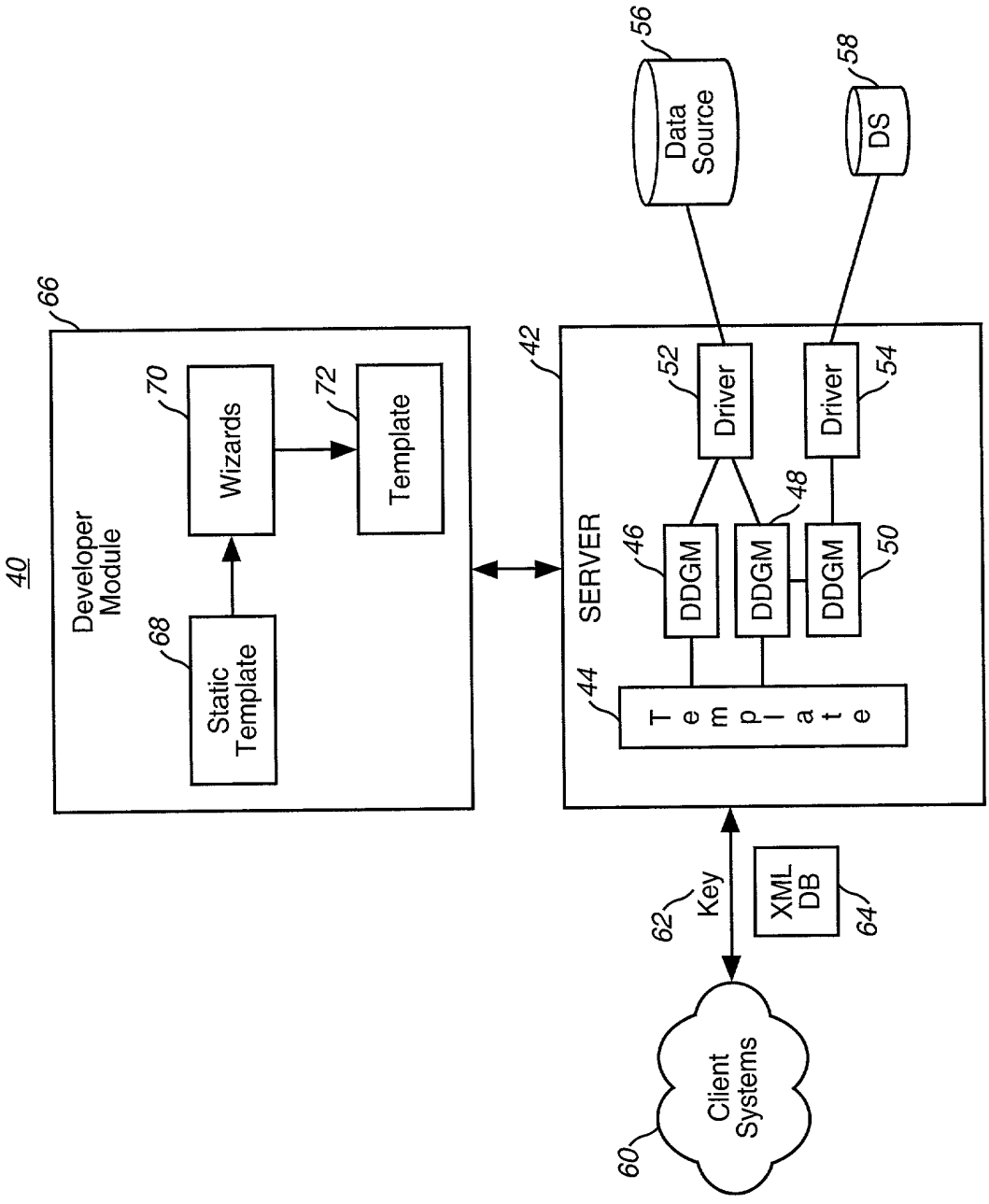
40
Developer Module
66
Wizards
70
Template
72
Static Template
68
SERVER
42
Driver
52
Driver
54
Data Source
56
DS
58
DDGM
46
DDGM
48
DDGM
50
Template
44
Key
62
XML DB
64
Client Systems
60

FIG. 2

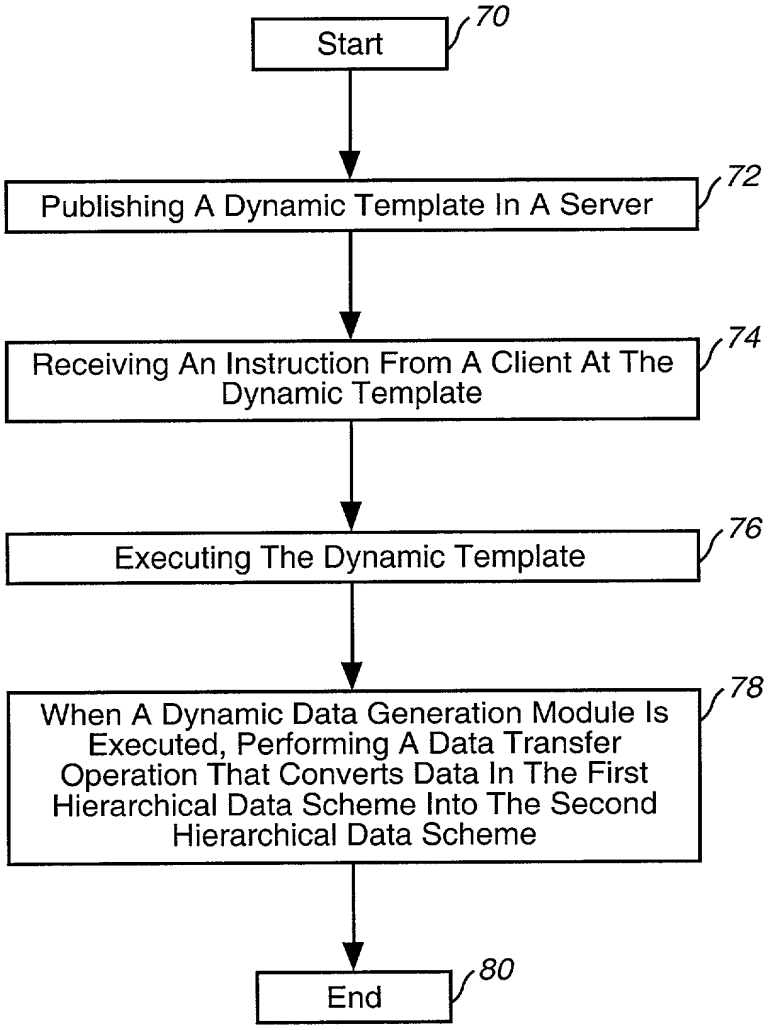

FIG. 3

Docket No. 50277-2009

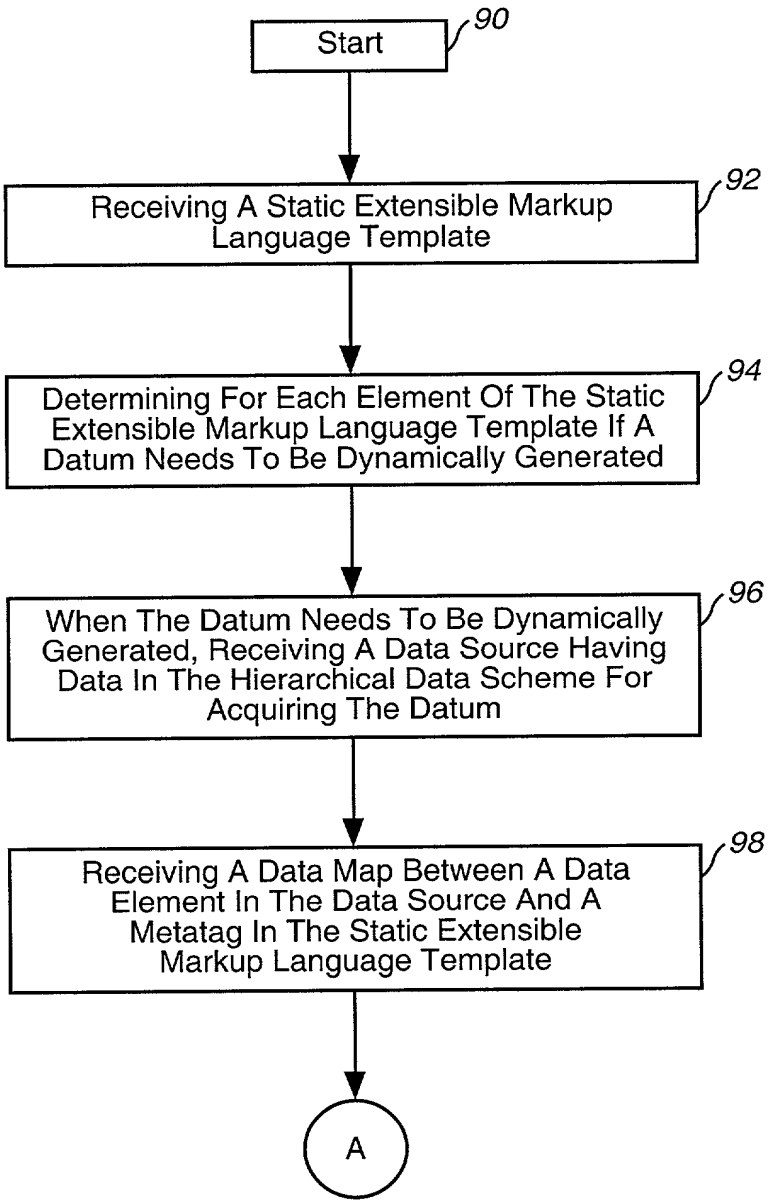
Start
90
Receiving A Static Extensible Markup Language Template
92
Determining For Each Element Of The Static Extensible Markup Language Template If A Datum Needs To Be Dynamically Generated
94
When The Datum Needs To Be Dynamically Generated, Receiving A Data Source Having Data In The Hierarchical Data Scheme For Acquiring The Datum
96
Receiving A Data Map Between A Data Element In The Data Source And A Metatag In The Static Extensible Markup Language Template
98
A

FIG. 4

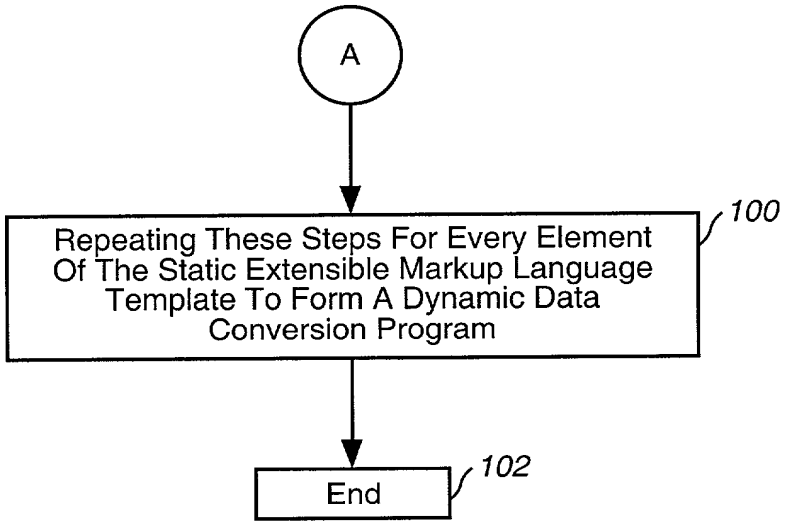

FIG. 5

Patent Application

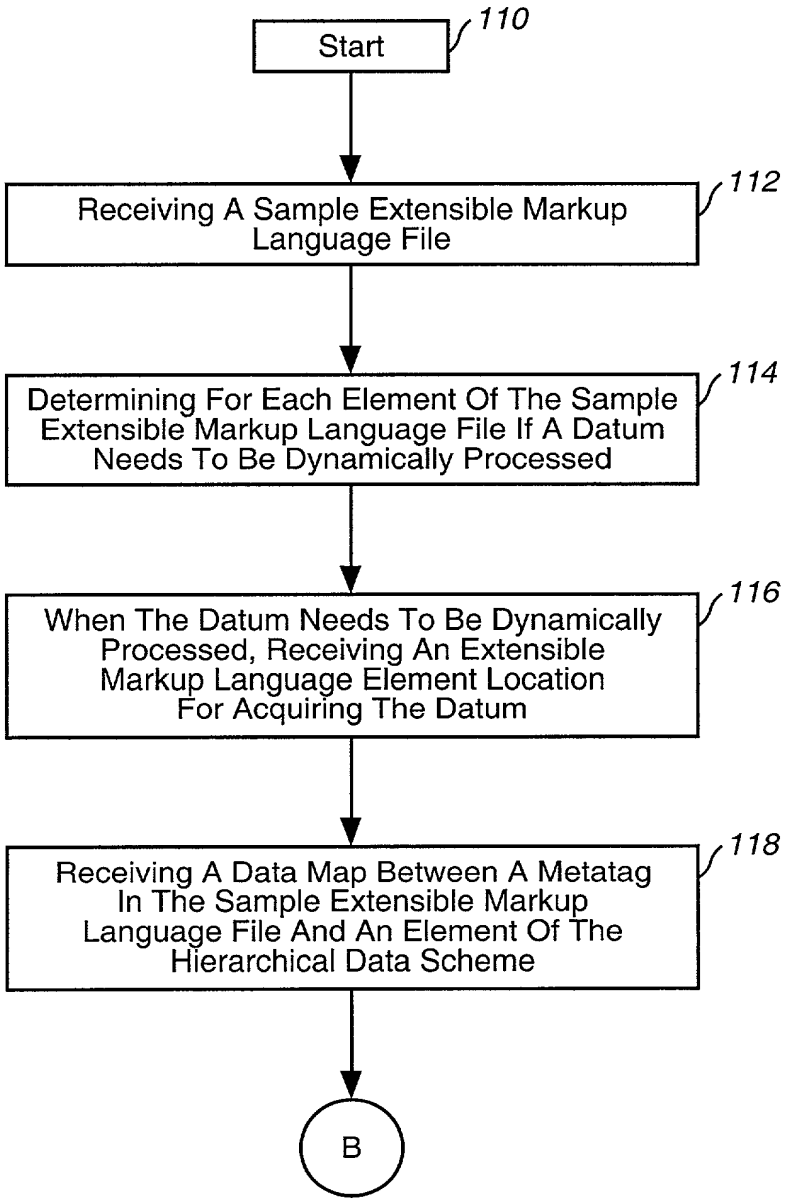
Start
110
Receiving A Sample Extensible Markup Language File
112
Determining For Each Element Of The Sample Extensible Markup Language File If A Datum Needs To Be Dynamically Processed
114
When The Datum Needs To Be Dynamically Processed, Receiving An Extensible Markup Language Element Location For Acquiring The Datum
116
Receiving A Data Map Between A Metatag In The Sample Extensible Markup Language File And An Element Of The Hierarchical Data Scheme
118
B

FIG. 6

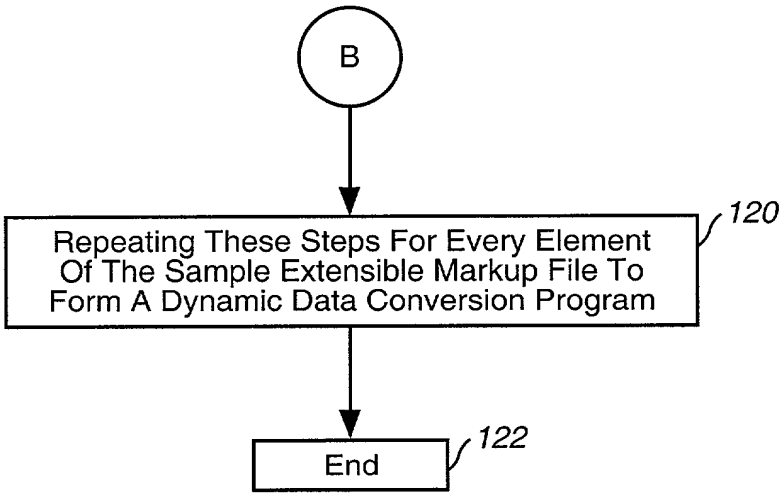

FIG. 7

Exhibit 2 Page 16

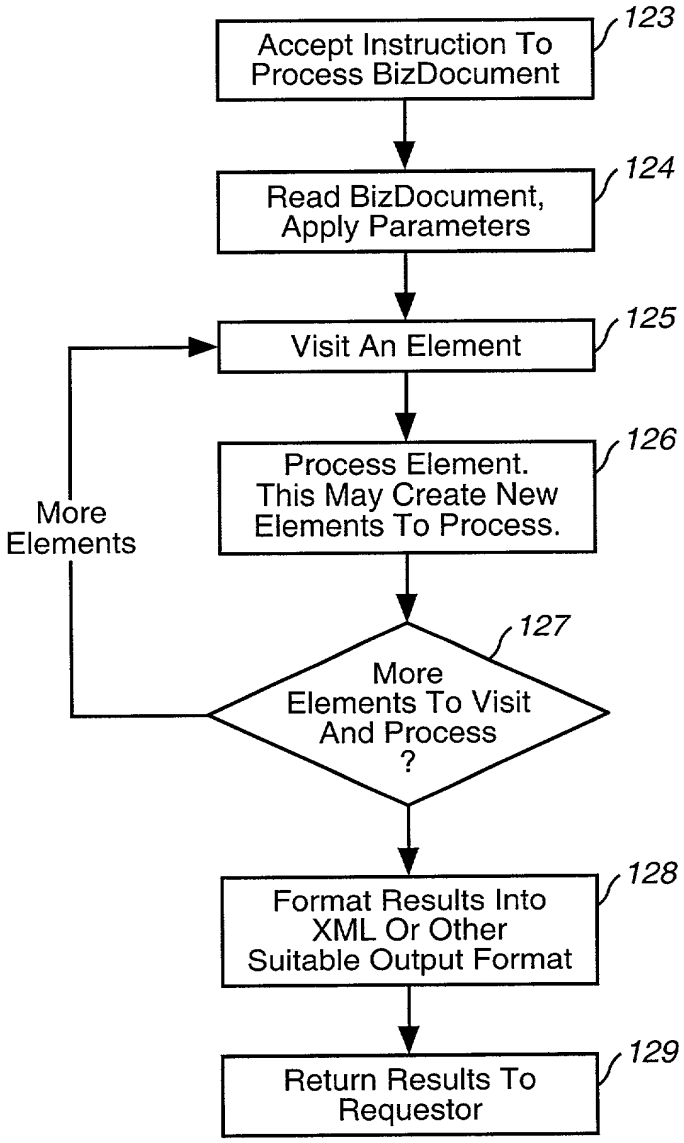
Accept Instruction To Process BizDocument
123
Read BizDocument, Apply Parameters
124
Visit An Element
125
Process Element. This May Create New Elements To Process.
126
More Elements
127
More Elements To Visit And Process ?
128
Format Results Into XML Or Other Suitable Output Format
129
Return Results To Requestor

FIG. 8

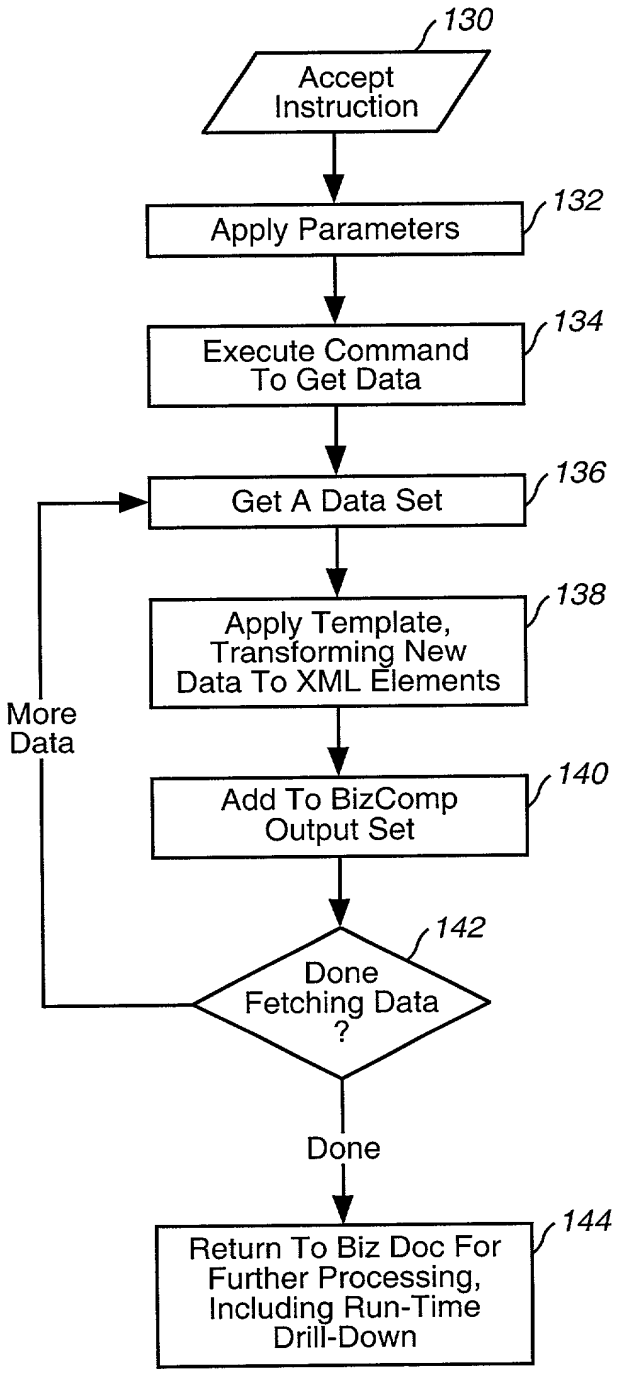
130
Accept Instruction
132
Apply Parameters
134
Execute Command To Get Data
136
Get A Data Set
138
Apply Template, Transforming New Data To XML Elements
140
Add To BizComp Output Set
142
Done Fetching Data ?
More Data
Done
144
Return To Biz Doc For Further Processing, Including Run-Time Drill-Down

FIG. 9

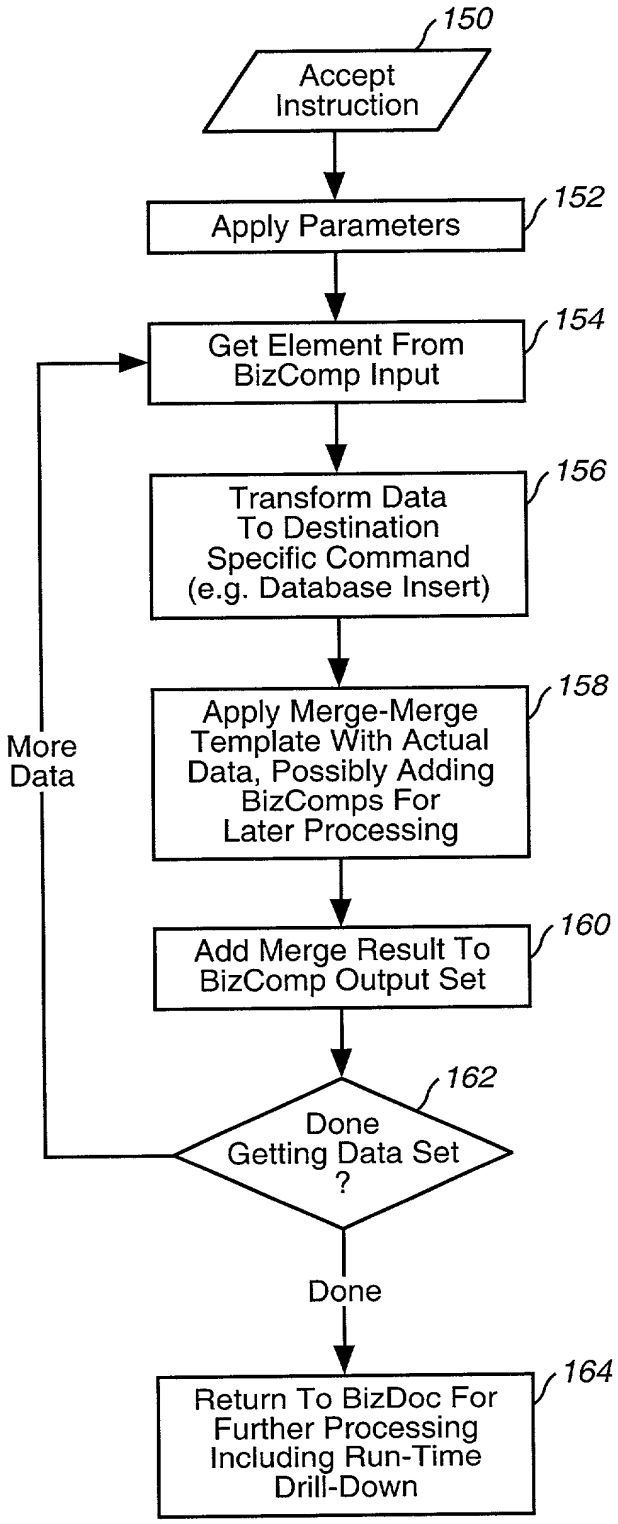

FIG. 10

Patent 6,700,588 B1

200

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE PurchaseOrderList SYSTEM "PurchaseOrderList.dtd">
<PurchaseOrderList>
   <PurchaseOrder PONumber="6080">
      <Header>
         <fromCust acct="CST1"/>
         <acctRep/>
         <OrigDate>6/13/2000</OrigDate>
         <RequiredDate>05/20/2000</RequiredDate>
      </Header>
      <ShipTo>
         <company>Simple Nutrition, Inc.</company>
         <address1>4585 Granby Cir</address1>
         <city>Colorado Springs</city>
         <stateProvince>CO</stateProvince>
         <country>USA</country>
         <postalCode>80919</postalCode>
      </ShipTo>
      <Items>
         <Item>
            <product>Tofu</product>
            <prodno>14</prodno>
            <unitprice>23.25</unitprice>
            <qty>2</qty>
            <discount>0.05</discount>
         </Item>
         <Item>
            <product>Chai</product>
            <prodno>1</prodno>
            <unitprice>18</unitprice>
            <qty>3</qty>
            <discount>0.10</discount>
         </Item>
      </Items>
   </PurchaseOrder>
</PurchaseOrderList>
```

FIG. 11

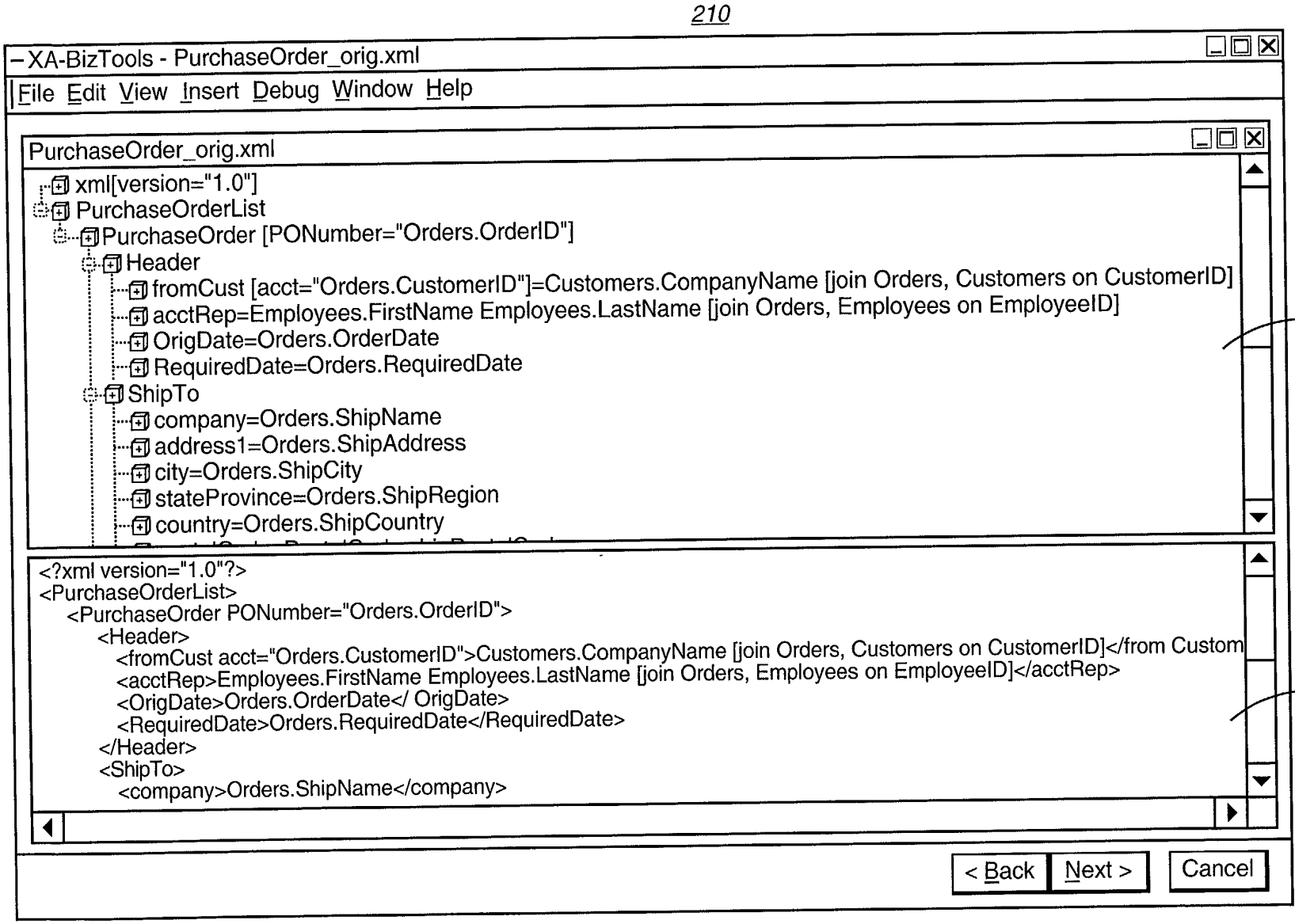
210
XA-BizTools - PurchaseOrder_orig.xml
File Edit View Insert Debug Window Help
PurchaseOrder_orig.xml
xml[version="1.0"]
PurchaseOrderList
PurchaseOrder [PONumber="Orders.OrderID"]
Header
fromCust [acct="Orders.CustomerID"]=Customers.CompanyName [join Orders, Customers on CustomerID]
acctRep=Employees.FirstName Employees.LastName [join Orders, Employees on EmployeeID]
OrigDate=Orders.OrderDate
RequiredDate=Orders.RequiredDate
ShipTo
company=Orders.ShipName
address1=Orders.ShipAddress
city=Orders.ShipCity
stateProvince=Orders.ShipRegion
country=Orders.ShipCountry
214
<?xml version="1.0"?>
<PurchaseOrderList>
<PurchaseOrder PONumber="Orders.OrderID">
<Header>
<fromCust acct="Orders.CustomerID">Customers.CompanyName [join Orders, Customers on CustomerID]</from Custom
<acctRep>Employees.FirstName Employees.LastName [join Orders, Employees on EmployeeID]</acctRep>
<OrigDate>Orders.OrderDate</ OrigDate>
<RequiredDate>Orders.RequiredDate</RequiredDate>
</Header>
<ShipTo>
<company>Orders.ShipName</company>
212
< Back
Next >
Cancel

FIG. 12

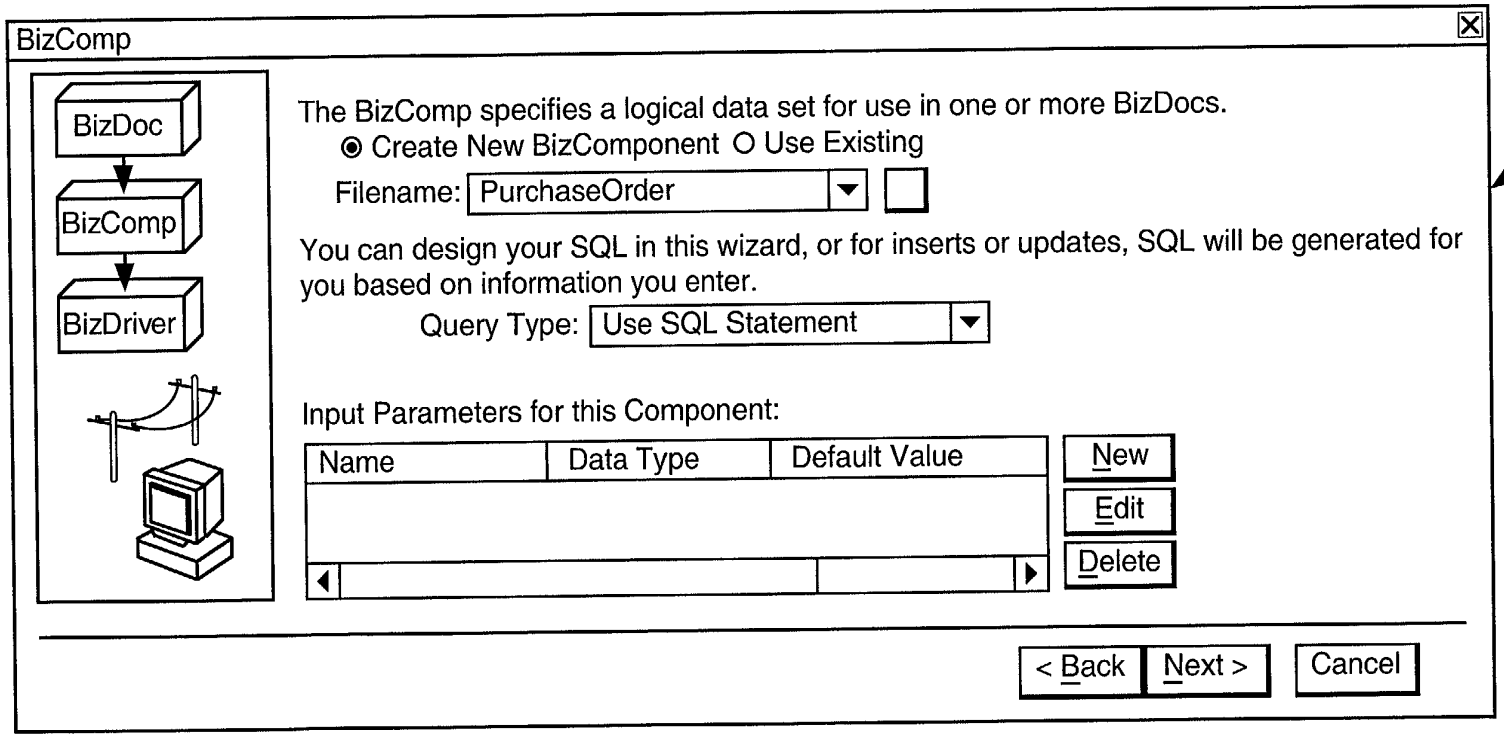
BizComp
BizDoc
BizComp
BizDriver
The BizComp specifies a logical data set for use in one or more BizDocs.
Create New BizComponent
Use Existing
Filename:
PurchaseOrder
You can design your SQL in this wizard, or for inserts or updates, SQL will be generated for you based on information you enter.
Query Type:
Use SQL Statement
Input Parameters for this Component:
Name
Data Type
Default Value
New
Edit
Delete
< Back
Next >
Cancel
220

FIG. 13

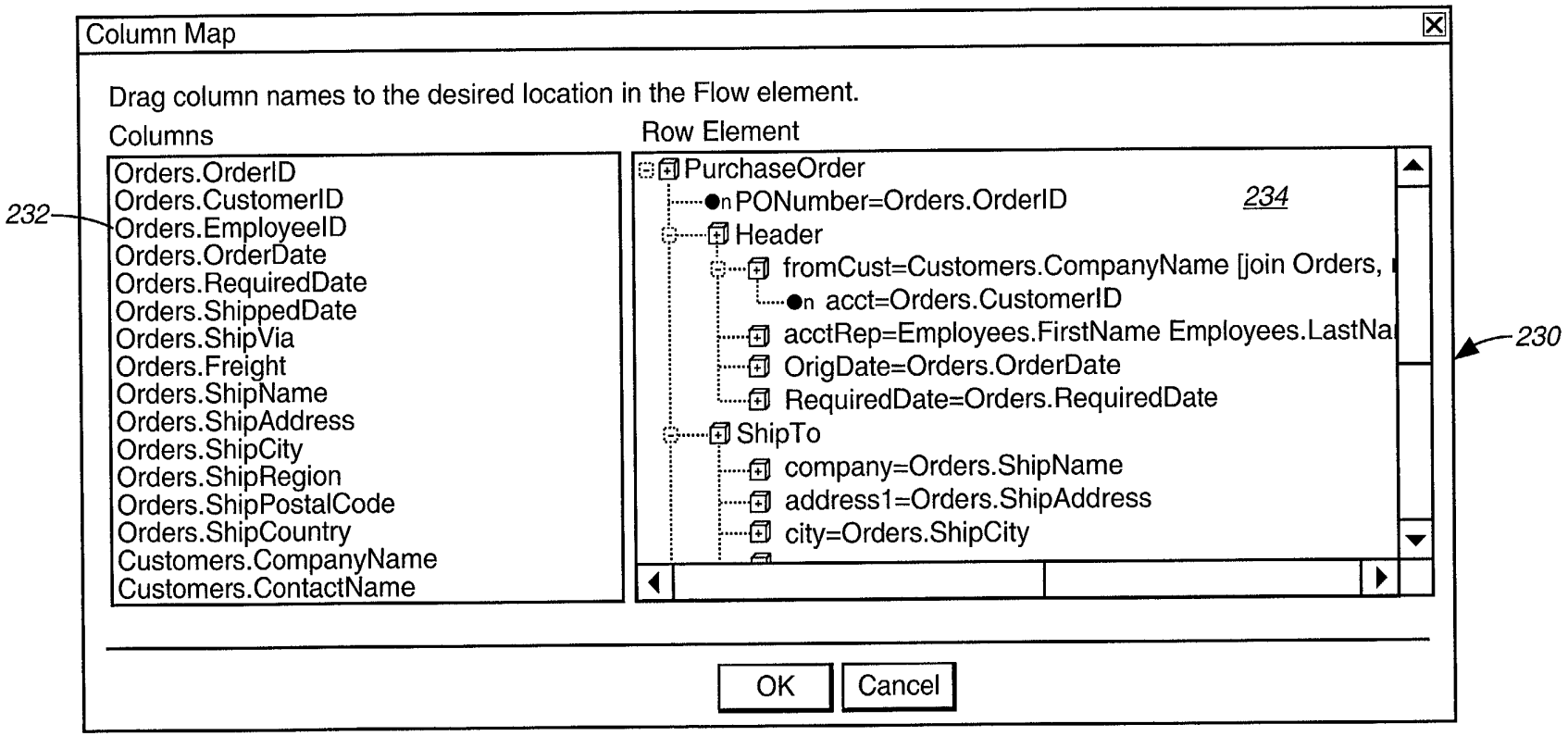
Column Map
Drag column names to the desired location in the Flow element.
Columns
Row Element
Orders.OrderID
Orders.CustomerID
Orders.EmployeeID
Orders.OrderDate
Orders.RequiredDate
Orders.ShippedDate
Orders.ShipVia
Orders.Freight
Orders.ShipName
Orders.ShipAddress
Orders.ShipCity
Orders.ShipRegion
Orders.ShipPostalCode
Orders.ShipCountry
Customers.CompanyName
Customers.ContactName
PurchaseOrder
PONumber=Orders.OrderID
234
Header
fromCust=Customers.CompanyName [join Orders,
acct=Orders.CustomerID
acctRep=Employees.FirstName Employees.LastNa
OrigDate=Orders.OrderDate
RequiredDate=Orders.RequiredDate
ShipTo
company=Orders.ShipName
address1=Orders.ShipAddress
city=Orders.ShipCity
OK
Cancel
232
230

FIG. 14

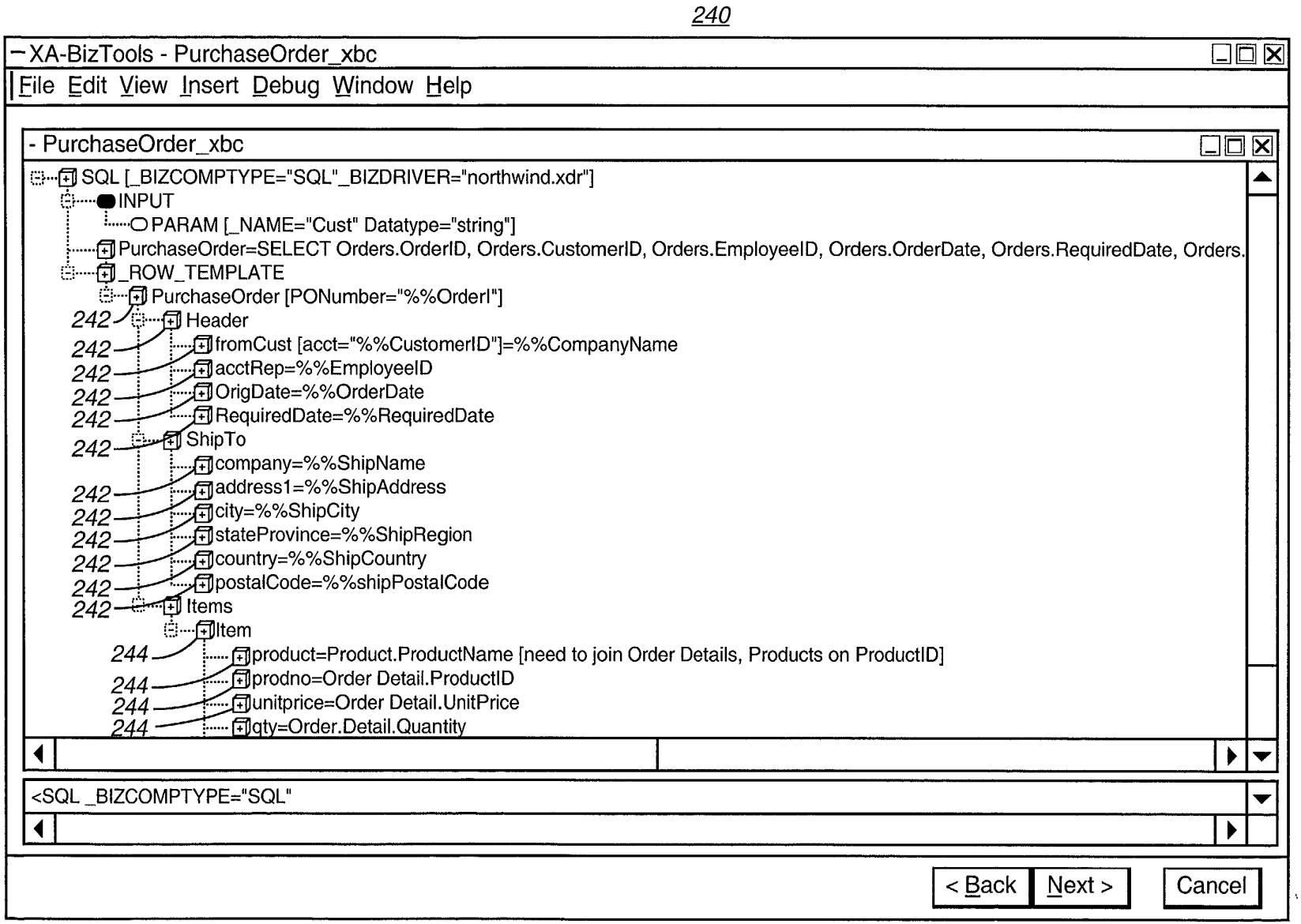
240
XA-BizTools - PurchaseOrder_xbc
File Edit View Insert Debug Window Help
- PurchaseOrder_xbc
SQL [_BIZCOMPTYPE="SQL"_BIZDRIVER="northwind.xdr"]
INPUT
PARAM [_NAME="Cust" Datatype="string"]
PurchaseOrder=SELECT Orders.OrderID, Orders.CustomerID, Orders.EmployeeID, Orders.OrderDate, Orders.RequiredDate, Orders.
_ROW_TEMPLATE
PurchaseOrder [PONumber="%%OrderI"]
242
Header
242
fromCust [acct="%%CustomerID"]=%%CompanyName
242
acctRep=%%EmployeeID
242
OrigDate=%%OrderDate
242
RequiredDate=%%RequiredDate
242
ShipTo
company=%%ShipName
242
address1=%%ShipAddress
242
city=%%ShipCity
242
stateProvince=%%ShipRegion
242
country=%%ShipCountry
242
postalCode=%%shipPostalCode
242
Items
Item
244
product=Product.ProductName [need to join Order Details, Products on ProductID]
244
prodno=Order Detail.ProductID
244
unitprice=Order Detail.UnitPrice
244
qty=Order.Detail.Quantity
<SQL _BIZCOMPTYPE="SQL"
< Back
Next >
Cancel

FIG. 15